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April 2020

DISPLAY KINEMATICS STAGING FOR THE PILOTED DRIVING

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Blunder, Verena, "DISPLAY KINEMATICS STAGING FOR THE PILOTED DRIVING", Technical Disclosure Commons, (April 23, 2020)

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DISPLAY KINEMATICS / STAGING FOR THE PILOTED DRIVING

Technical task:

In motor vehicles, depending on the desired or achievable degree of automation, driving tasks are increasingly taken over by the vehicle itself, enabling the driver to perform various secondary activities to varying degrees, which he could or should not perform when performing his active driving task. The aim of designing vehicle interiors for (partially) automated driving is to provide the occupant with an environment that is suitable for such new usage scenarios, including the necessary peripherals.

Initial situation:

For this reason, an attempt is often made to offer the occupant more space in the vehicle interior in conjunction with a more comfortable seating position, which is usually achieved, for example, by temporarily moving away the steering wheel, which is not necessary when driving as a pilot, and generally by moving the seat backwards against the direction of travel in conjunction with a slightly flatter seat back angle. As a rule, the driver and front passenger communicate with the vehicle via displays located in the area of the control panel. In the majority of cases, "touch" operation has become established. However, by assuming an appropriate sitting position, the vehicle occupant moves away from these input interfaces, so that satisfactory accessibility of the displays is at least partially no longer possible. In addition, it is possible that a fixed screen position or a fixed screen format may be quite useful for active driving, but less suitable for carrying out secondary activities, e.g. surfing on the Internet or watching a film, so that the display is now used for completely different content.

Solution:

The invention relates to the centre display of a vehicle which, depending on the driving mode active drive or piloted drive, changes both its position and its format and thus also indicates and stages the transition from one driving mode to the other. This is achieved by initially mounting a generously dimensioned display in portrait format close to the control panel body above any centre console for active driving. The orientation and position of the display is ideal for operating functions while driving, and the central position of the main screen is also easily seen and operated by both driver and passenger. When switching to the pilot-controlled driving mode, the occupants are moved into a comfortable seating position and the display is tracked along the driving axis against the direction of travel. At the same time, the display is also transferred from portrait to landscape format by rotating it by 90°, which is particularly suitable for watching films, but also for most other activities that are usually carried out on a computer or laptop. The combination of a translational and a rotational movement, which occur simultaneously, corresponds to the movement along a screw thread. For the application described, it can be carried out, for example, with a spindle gear (with a large pitch) or another suitable mechanical positive coupling. The ratio of the quarter turn to the travel distance covered by the display can easily be adjusted individually for the corresponding vehicle. The basic principle remains transferable and such a drive can therefore easily be designed as a module.

Advantages:

The present invention describes a very simple and thus also cost-effective method for new usage and interior concepts, on the one hand to be able to offer the most comfortable display and operating situation for every driving condition, and on the other hand to stage the transition between the driving modes in a valuable and above all clearly perceptible manner for the customer.

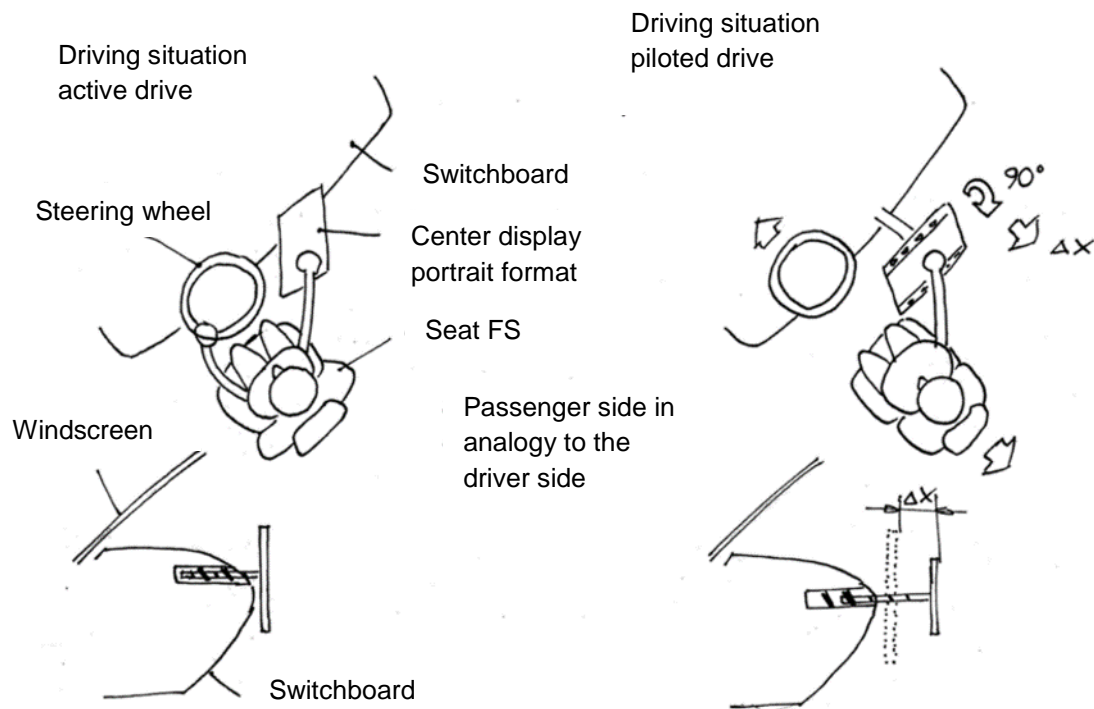


Figure 1